

ABSTRACT OF THE DISCLOSURE

An hydraulic cylinder and associated hydraulic system are disclosed including a base in operative contact with a machine component, for delivering mechanical power to the machine component. An hydraulic cylinder includes a sleeve cylinder, in mechanical contact with the base, and stationary between extended and retracted positions, for substantially defining a second hydraulic fluid chamber. An internal cylinder is substantially retained within the sleeve cylinder, for substantially defining the first hydraulic fluid chamber. A piston is employed having a piston rod, substantially retained within the sleeve cylinder, and a piston cap, substantially retained within the internal cylinder. An inner portion is substantially defined between the piston cap and an interior portion of the internal cylinder. The internal cylinder is adapted to be displaced to the extended position to deliver a first power stroke upon pressurizing the first or second hydraulic chambers with hydraulic fluid. The inner portion is adapted to displace the sleeve and internal cylinder to the retracted position upon being pressurized with hydraulic fluid, to thereby deliver a second power stroke.